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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,150

10/18/2006

Koichi Shimokawa

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EXAMINER

GOLOBOY, JAMES C

ART UNIT

PAPER NUMBER

1797

NOTIFICATION DATE

DELIVERY MODE

02/05/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/586,150	Applicant(s) SHIMOKAWA, KOICHI	
	Examiner James Goloboy	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is under 35 U.S.C. 102(b) as being anticipated by Calloni (EP 214672 A2).

In the abstract, Calloni discloses a process for the purification of oils such as perfluoropolyether oils. From page 2 line 29 through column 3 line 10 Calloni teaches that the process comprises a degassing step followed by a filtration step, which is a purification step. The process of Calloni therefore meets the limitations of claim 1.

3. Claims 1-3 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimokawa (JP 2002-25046).

An English translation of Shimokawa, which is attached, has been used in setting forth this rejection. Shimokawa, in paragraphs 1-2, discloses a magnetic recording medium containing a lubricating layer, which can be a perfluoropolyether, as recited in claims 1 and 6. In paragraph 6 Shimokawa discloses that the perfluoropolyether lubricant is refined by a method which can include distillation under reduced pressure, which meets the limitations of the degassing and purifying method of claims 1-3. In paragraph 5 Shimokawa discloses that the perfluoropolyether preferably has a

molecular weight of 4,000 to 10,000, strongly encompassing the range recited in claim 5 and matching the lower endpoint. Shimokawa further discloses that the molecular weight distribution is preferably 1.1 or less, within the range recited in claim 5. Shimokawa therefore meets the limitations of claims 1-3 and 5-6.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimokawa in view of Fomblin Z Derivatives—Product Data Sheet ("Fomblin", http://www.solvaysolexis.com/static/wma/pdf/5/4/3/4/fom_thin.pdf).

The discussion of Shimokawa in paragraph 3 above is incorporated here by reference. Shimokawa teaches in paragraphs 4-5 that the perfluoropolyether to be refined is a commercial perfluoropolyether.

Fomblin teaches hydroxyl-group containing perfluoropolyethers suitable for use in lubricating magnetic disk drives. Fomblin Z TETRAOL is a perfluoropolyether meeting the limitations of the structure of claim 4. The use of Fomblin Z TETRAOL as the commercial perfluoropolyether of Shimokawa therefore meets the limitations of claim 4.

It would have been obvious to one of ordinary skill in the art to use Fomblin Z TETRAOL as the commercial perfluoropolyether of Shimokawa, as Fomblin teaches that it is a suitable perfluoropolyether for lubricating magnetic disk drives.

7. Claims 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida (US PG Pub. No. 2003/0175470).

In paragraph 5 Ishida discloses lubricants to be coated on a magnetic disk. In paragraph 10 Ishida discloses that the lubricant is a perfluoropolyether with a molecular weight distribution of 1.5 or less, encompassing the range recited in claim 11, and in paragraph 15 discloses that the number average molecular weight can be at least 5500, which also leads to a weight average molecular weight of at least 5500, overlapping the range recited in claim 12. In structure (2) following paragraph 15 Ishida teaches that the perfluoropolyether can have a hydroxyl group, as recited in claim 13. The perfluoropolyethers of Ishida meet the product-by-process limitations of claim 14, and in paragraphs 25-31 Ishida describes the magnetic disks, which can include a negative pressure slider as recited in claim 15. In paragraphs 27-28 Ishida discloses that the disks comprise a carbonaceous protective layer, as recited in claims 7 and 9, and in paragraph 30 discloses that the disk can be of a load/unload type, as recited in claims 8

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and 10. The perfluoropolyether and carbonaceous protective layer of Ishida meet the product-by-process limitations of claims 7 and 9.

The only difference between Ishida and the currently presented claims is that some of the ranges of Ishida overlap the claimed ranges instead of falling within them. See MPEP 2144.05(I): "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);" Claims 11-15 are therefore rendered obvious by Ishida.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Goloboy whose telephone number is (571)272-2476. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCG

/Glenn A Caldarola/
Acting SPE of Art Unit 1797